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## Nothing but (sweep) net

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# Nothing but (sweep) net

## **Abstract**

Many years ago when Michael Jordan was dominating the basketball courts, his incredible shooting ability was often described as "nothing but net"--a mark of smooth perfection. To excel as a crop scout, the best tool of the trade is nothing more than a net (sorry, it's my best analogy). I find the sweep net a perfect tool for first detection of insects in soybeans or alfalfa. In a few quick minutes, a field can be swept and the contents examined. If the insect in question is found, then a more thorough process can be implemented to determine the number of insects per plant, square foot, length of row, etc. A sweep net is helpful for scouting bean leaf beetles and caterpillars in soybeans, and is absolutely essential for scouting potato leafhoppers in alfalfa.

## **Keywords**

Entomology

## **Disciplines**

Agricultural Science | Agriculture | Entomology

**Table 2. Insecticides labeled for alfalfa weevil**

Insecticide	Rate per Acre (High and Low Rates)	Harvest Interval (Days)
Baythroid 2 E	1.6–2.8 ounces	7
Furadan 4 F	0.5–2 pints	7–28
Lannate LV	3 pints	0
Lorsban 4 E	1–2 pints	14–21
Mustang Max	2.24–4.0 ounces	3
Pounce 3.2 EC	4–8 ounces	0–14
Sevin XLR+	3 pints	7
Warrior	2.56–3.84 ounces	7

*Marlin E. Rice is a professor of entomology with extension and research responsibilities in field and forage crops.*



**Damage to alfalfa by weevil larvae "skeletonizes" the leaves with only the tougher leaf veins remaining. (Marlin E. Rice)**



## Insects and Mites

### Nothing but (sweep) net

by Marlin E. Rice, Department of Entomology

Many years ago when Michael Jordan was dominating the basketball courts, his incredible shooting ability was often described as “nothing but net”—a mark of smooth perfection. To excel as a crop scout, the best tool of the trade is nothing more than a net (sorry, it’s my best analogy). I find the sweep net a perfect tool for first detection of insects in soybeans or alfalfa. In a few quick minutes, a field can be swept and the contents examined. If the insect in question is found, then a more thorough process can be implemented to determine the number of insects per plant, square foot, length of row, etc. A sweep net is helpful for scouting bean leaf beetles and caterpillars in soybeans, and is absolutely essential for scouting potato leafhoppers in alfalfa.

I use a hybrid net whose components are made by two different supply houses. I recommend buying the handle from Ward’s because of its 3-foot long, strong metal construction and heavy wire gauge hoop, but their net bag is flimsy. I recommend replacing the net bag with one made by BioQuip. The bag from BioQuip is extremely durable—the edge is made of Dacron sail tape—and slides easily through alfalfa and soybeans during sweeping. The Dacron is extremely resistant to



**A crop scout sweeping a soybean field with a net. (Marlin E. Rice)**

abrasion and should last throughout the growing season, plus it will not roll up on the leading edge of the net hoop like the more flimsy net bag from Ward’s. Unfortunately, the BioQuip net handle is wood and a short 2-foot long. For these reasons, I suggest buying the parts and making a hybrid sweep net.

The hybrid sweep net is not inexpensive, but it will serve you well in collecting insects in alfalfa and soybeans. I strongly encourage you to get one if you’ll be scouting either of these crops this season.

Here are the components for my hybrid net:

### **Heavy-duty beating net #10V0560**

(net has 36" aluminum handle with plastic grip and frame of steel)

\$35.95 each

Ward's Natural Science Establishment, Inc.

P.O. Box 92912

Rochester, NY 14692

1-800-962-2660

<http://www.wardsci.com/>

### **15" heavy-duty sweep net bag #7215HS**

(made of rugged sailcloth banded at top with Dacron sail tape)

\$12.55 each

BioQuip Products, Inc.

2321 Gladwick St.

Rancho Dominguez, CA 90220

310-667-8800

<http://www.bioquip.com/default.asp>

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*Marlin E. Rice is a professor of entomology with extension and research responsibilities in field and forage crops.*



## **Insects and Mites**

# **2006 predictions for corn flea beetles and Stewart's disease**

by **Marlin E. Rice and Rich Pope, Department of Entomology**

Spring has arrived, and following a relatively mild winter, southern Iowa corn is projected to be at high risk from Stewart's disease. This disease (also called Stewart's wilt) is a bacterial disease of corn caused by *Pantoea (Erwinia) stewartii*. The bacterium survives the winter in the gut of hibernating corn flea beetles. In the spring, flea beetles move from overwintering sites and while feeding on the corn, can transmit the bacterium. The bacteria can only spread plant to plant with the assistance of the beetle; it cannot be transmitted from plant to plant. Unfortunately, field corn inbreds and sweet corn are particularly susceptible to this disease. However, seed producers in moderate- to high-risk areas should scout for early-season flea beetle populations because, if left unchecked, substantial leaf damage during grain fill and yield loss can be expected.

Stewart's disease can occur at any stage of plant development, but symptoms are almost always associated with flea beetle feeding. At the seedling stage, infected plants wilt rapidly from systemic infection, death is common, and plants that do survive are stunted. Later in the growing season, usually after pollination, leaf blight occurs. Disease symptoms are long, wavy streaks that are initially water soaked, and then turn yellow and die. Corn flea beetle feeding scars are visible

within the lesions. If the disease is severe, whole leaves may wilt and die. Mild winters during the past decade have resulted in an increased occurrence of Stewart's

disease in Iowa. Two models are available to predict the risk of Stewart's disease: the Stevens-Boewe Index and the Iowa State Mean Monthly Temperature Model.



**Corn flea beetles. (Marlin E. Rice)**

### **Stevens-Boewe Index**

The Stevens-Boewe Index predicts the severity (how much of the corn leaf tissue is infected) of the leaf blight stage of Stewart's disease in the late summer. The risk is calculated by summing the average monthly temperatures for December, January, and February. A sum below 80 °F indicates a slight risk, 80–90 °F is considered low to moderate risk, and greater than 90 °F is considered high risk. Forecasting with the Stevens-Boewe Index, southern Iowa has a high risk of the late leaf blight phase of Stewart's disease (Figure 1).